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ABSTRACT

Presented is an evaluation of a program providing physically handicapped and mentally retarded children (4-21 years old) in 19 special educational facilities in New York City with an intensive remedial program in reading and mathematics. The program, involving instruction by paraprofessionals of a minimum of 1/2 to 1 hour each week for a total of minimum of 40 hours for each participant (except in hospital shcools where the minimum was 20 hours), is noted to have met all of the objectives with significant demonstrated gains by the Ss in achievement and social-emotional development. Listed recommendations include the recycling of the program, continuation of the paraprofessional in the trainer role, and improvement of diagnostic and prescriptive programming. Findings are provided in tabular form and test results are appended. (IM)

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EVALUATION REPORT

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RIE 09-51696

Individualizing Instruction for Physically Handicapped and Mentally Retarded Children in Special Schools

SCHOOL YEAR 1974-1975

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Estelle L. Fryburg, Ph.D.

An evaluation of a New York City School district educational project funded under Title I of the Elementary and Secondary Education Act of 1965 (PL 89-10) performed for the Board of Education of the City of New York for the 1974-75 school year.

EC093182

Dr. Anthony J. Polemeni, Director

BOARD OF EDUCATION OF THE CITY OF NEW YORK
OFFICE OF EDUCATIONAL EVALUATION
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TABLE OF CONTENTS

	Page
List of Tables	iii
I. THE PROGRAM	
Sites	1
Pupil Participants	2
Description - Mentally Retarded	6
Description - Language and Hearing Impaired	7
Description - Deaf Children	7
Description - Neglected and Dependent Children	7
Description - Hospitalized Children	8
Staffing	8
Paraprofessionals	8
Teacher Specialists	9
Field Coordinator	10
Secretary	10
Supervision and Training	10
The Program	10
Supplies and Equipment	11
II. EVALUATION PROCEDURES	
Program Objectives	12
Sampling Procedures	12
Implementation of Evaluation Procedures	13
Data Collection	13
Instrumentation	14
Methods of Data Treatment	15
Evaluation Objective 1	15
Evaluation Objective 2	15
Evaluation Objective 3	16
Evaluation Objective 4	16
III. FINDINGS	
Recommendations, Evaluator 1973-1974	18
Descriptive	19
Pupil Participants	19
Paraprofessionals	19
Teacher Specialists	20
Field Coordinator	20
Secretary	22
Children's Evaluation of Program	22
Parents' Evaluation of Program	22
Analysis of the Data	23
Objective 1	23
Objective 2	27
Objective 3	27
Ancillary Analyses	28
Language Program - Bilingual	28
Social-Emotional Growth of Children	30
Inservice Training	30
Behavioral Objectives Development	32

		Page
IV.	SUMMARY OF MAJOR FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	
	Findings and Conclusions.....	33
	Recommendations.....	34
V.	EXEMPLARY PROGRAM ABSTRACT.....	37
	APPENDICES	
	MIR Form Standardized Test Results - Reading Retarded Children.....	38
	Language and Hearing Impaired Children.	38
	Deaf Children.....	39
	Neglected Children.....	39
	Hospitalized Children.....	39
	MIR Form Standardized Test Results - Mathematics Retarded Children.....	40
	MIR Form Standardized Test Results - Bilingual Program Language and Hearing Impaired Children.	41
	Data Loss Form.....	42

LIST OF TABLES

Table	Title	Page
1	Physically Handicapped and Mentally Retarded Participants, 1974-1975.....	3
2	Type of Handicaps in Population.....	4
3	Distribution of Age in Years.....	5
4	Distribution of Time in School in Years.....	6
5	Paraprofessional Assignment.....	8
6	Analysis of Reading Achievement Occupational Training Centers (P-721).....	23
7	Analysis of Reading Achievement School for Language and Hearing Impaired Children (P-158).....	24
8	Analysis of Reading Achievement School for the Deaf (J-47).....	24
9	Analysis of Reading Achievement Queensboro Shelter (401 X).....	25
10	Analysis of Reading Achievement Hospital Schools (401 M, 401 X, 401 K, 402 M)	26
11	Analysis of Arithmetic Achievement Occupational Training Centers.....	28
12	Reading Achievement Bilingual Language and Hearing Impaired.....	29
13	Social-Emotional Growth - All Participants..	30
14	Inservice Training.....	31

Chapter I THE PROGRAM

Sites

The program entitled, "Individualizing Instruction for Physically Handicapped and Mentally Retarded Children in Special Schools," B/E 09-51696 (ESEA Title I) was conducted from September, 1974 until June, 1975 at 19 facilities which were located in every borough of New York City. The specific handicap manifested by a child (and in some cases the child's residence) determined the educational facility to which he was directed for service. The 19 educational facilities which participated in the 1974-1975 program were:

I. Occupational Training Centers (P-721)
(Schools for mentally retarded young adults ages 16 - 21)
   A. Manhattan Occupational Training Center (Manhattan)
   B. Bronx Occupational Training Center (Bronx)
   C. Brooklyn Occupational Training Center (Brooklyn)
   D. Queens Occupational Training Center (Queens)
   Corona, L. I. Annex: Far Rockaway, L. I.
   E. Richmond Occupational Training Center (Richmond)

II. School for Language and Hearing Impaired Children (P-158-M)
Children manifesting a variety of language and hearing disabilities
   A. P-158-M at P. S. 158 (Manhattan)
   B. P-158-M annex at Queens Occupational Training Center (Queens)
   C. P-158-M annex at P. S. 63 (Queens)
   D. P-158-M annex at P. S. 163K (Brooklyn)

III. School for the Deaf (J-47-M) (Manhattan)

IV. Queensboro Shelter (P-401-X) (Queens) (School for neglected dependent children living in a residence for children)

V. Hospital Schools (400)

(Schools for hospitalized children)

A. 401M

1. Institute for Rehabilitation Medicine (Manhattan)
2. Cumberland Hospital (Brooklyn)
3. Beth Israel Hospital (Manhattan)

B. 402 M

1. Mt. Sinai Hospital, later changed to Memorial Hospital (Manhattan)
2. Harlem Hospital (Manhattan)
3. Hospital for Special Surgery (Manhattan)

C. 401X

Lincoln Hospital (Bronx)

D. 401 K

Kings County Hospital (Brooklyn)

Pupil Participants

The physically handicapped and mentally retarded pupils who participated in the program were selected by the professional and clinical staff from Title I eligible youngsters who needed individualized assistance, motivation and instruction in the areas of reading and mathematics. Scheduled periods of instruction by paraprofessionals were to vary from ½ hour to 1 hour or more each week dependent upon individual

needs. The program was to be conducted during the regular school day, and each child was to receive a minimum of 40 hours of intensive assistance during the school year.

According to the proposal, 500 children were to be served. Data were collected for 534 participants; complete data were available for 478 participants. Table 1 indicates the distribution of the population and the reasons for incomplete data collection.

Table 1

Physically Handicapped and Mentally Retarded Particpants

1974-1975

Site	Sample Complete Data	Sample Incomplete Data
Occupational Training Centers	246	8 [1]
School for Language and Hearing Impaired Children	89	6 [2]
School for the Deaf	51	0
Queensboro Shelter	24	0
Hospital Schools	68	42 [3]
Total	478	56
Total Sample	534	

The participants in the program demonstrated a diversity of handicaps and a wide range of ability and levels of achievement. The academic retardation which they demonstrated was complicated by physical handicaps and emotional stresses arising from the handicap and/or social deprivation.

[1] O.T.C. Absent 5; Discharged 2; Working 1; Total 8

[2] S.L.H.I.C. Dropped 4; Moved 1; Absent 1; Total 6

[3] Hospital Schools Children left before post test: 42

Approximately 50% of the children were multiple-handicapped. Table 2 indicates the distribution of handicaps of the participants.

Table 2

Physically Handicapped and Mentally Retarded Participants

Type of Handicap	Number of Subjects
Mental Retardation	201
Mental Retardation - Emotionally Disturbed	9
Mental Retardation - Down's Syndrome	4
Mental Retardation - Hearing Loss	2
Mental Retardation - Speech Problem	5
Mental Retardation - Bilingual	1
Mental Retardation - Visual Handicap	10
Mental Retardation - Physical Handicap	5
Mental Retardation - Brain Injured	8
Mental Retardation - Cerebral Palsy	2
Severely Deprived - Emotionally Disturbed	20
Severely Deprived - Emotionally Dist. - Brain Inj.	2
Deaf	28
Deaf - Emotionally Disturbed	12
Deaf - Emotionally Disturbed - Retarded	1
Deaf - Retarded	10
Language - Hearing Impaired	37
Language - Hearing Impaired - Retarded	3
Language - Hearing Impaired - Retarded - Biling.	4
Language - Hearing Impaired - Bilingual	41
Language - Hearing Impaired - Emotionally Dist.	1
Temporary Medical Problems	59
Cerebral Palsy	2
Paraplegia	1
Brain Injury	6
Spina Bifidia	1
Lukemia	3
Total	478

The participants ranged in age from four years to 21 years. Table 3 presents the distribution of age the participants.

Table 3

Physically Handicapped and Mentally Retarded Participants

Distribution of Age in Years

Years	Frequency	Per Cent
4.00	1	.2
6.00	3	.7
7.00	8	1.9
8.00	13	3.0
9.00	14	3.2
10.00	39	9.0
11.00	26	6.0
12.00	26	6.0
13.00	25	5.8
14.00	15	3.5
15.00	8	1.9
16.00	22	5.1
17.00	68	15.8
18.00	56	13.0
19.00	65	15.1
20.00	27	6.3
21.00	15	3.5
Data Missing:	47	Missing
Total	478	100.0

The time the participants had attended school ranged from 1 year to 15 years. Table 4 presents the distribution of time in school of the participants.

Table 4

Physically Handicapped and Mentally Retarded Participants

Distribution of Time in School in Years

Years in School	Frequency	Per Cent
1.00	18	4.7
2.00	21	5.4
3.00	22	5.7
4.00	36	9.3
5.00	22	5.7
6.00	18	4.7
7.00	16	4.1
8.00	13	3.4
9.00	12	3.1
10.00	28	7.3
11.00	53	13.7
12.00	62	16.1
13.00	41	10.6
14.00	20	5.2
15.00	4	1.0
Data Missing	92	Missing
Total	478	100.0

Mentally Retarded

Children who are mentally retarded are those who, as a result of subaverage intellectual functioning, are unable to effectively profit educationally from a regular classroom situation. They are recommended for CRMD classes by the Bureau of Child Guidance after individualized testing. The obtained IQ scores for CRMD placement are 75 or below. Four categories of children are serviced as follows: Educable Mentally Retarded ((50-75 I.Q.), Trainable Mentally Retarded (below 50 I.Q.), Profoundly Retarded and Doubly Handicapped (retarded with physical handicaps). They generally demonstrate a slowness in maturation which may include disabilities in: auditory memory, visual memory, generalization, language abilities, conceptual and perceptual abilities as well as imagination and creative abilities.

Language and Hearing Impaired Children

Language impaired children include three general types. A small percentage indicate organic (but no peripheral) deficit in the ability to receive or "take in" language. A second group includes those whose hearing is grossly normal but whose primary disability is in the expressive area. A third group includes those in which a peripheral hearing deficit is complicated by additional learning, social, and environmental factors. Many of the participants in this program came from bilingual homes, and we may assume that bilingual confusion may be an impediment to academic achievement for these students.

Deaf Children

Children are admitted to special programs for the deaf if they demonstrate an average hearing loss in the speech frequencies of over 60 decibels A.S.A. or 70 decibels I.S.O. Each case, however, is decided individually after careful review of audiological records, an examination by an otologist, and a study of the information provided by schools, clinics, and other cooperating agencies. The programs are designed to meet the needs of children whose hearing disability makes education in a regular classroom impossible.

Neglected and Dependent Children

Neglected and dependent children, residing at the Queensboro Shelter, represent a wide range of ability, academic achievement, and emotional stability. They are

provided with schooling in small classes at the Queensboro Shelter School.

Hospitalized Children of School Age

Hospitalized children of school age on ALL grade levels from kindergarten through high school receive instruction whose primary purpose is the return of the hospitalized child to a normal school setting with as little loss in academic development as possible. Services are adapted to the physical limitations of the child---the extent and degree of his illness.

Staffing

The proposal indicated that 44 paraprofessionals (Educational Assistants - Educational Associates) were to be employed. Table 5 indicates the employment and assignment of the paraprofessionals.

Table 5

Paraprofessional Assignment

Site	# of Paraprofessionals
O.T.C. (P - 721)	21
S.L.H.I.C. (P - 158 - M)	8
School for the Deaf (J - 47 - M)	5
Queensboro Shelter	2
Hospital Schools (400)	8
Total	44

Activities of Paraprofessionals

Each paraprofessional was to work with a group of approximately 10 children, providing intensive individualized special instruction in reading and math for periods varying from ½ hour to 1 hour during the regular school day. The activities of the paras were to be correlated and articulated with those of the regular teachers and the ongoing program in the classroom. A schedule for each paraprofessional was

to be developed during the first week in conjunction with principals, project coordinator, teachers and the district supervisor.

The paraprofessionals were to work with Title I children in providing:

Preparation and dissemination of "teacher-made" materials

Individual and bedside instruction in reading and/or math

Small group instruction in reading and/or math

Supervision and Training

The paraprofessionals were to be under the direct supervision and training of the Title I reading and math specialists. The field coordinator was to arrange and supervise the training of the paraprofessionals.

Teacher Specialists

Six teacher specialists were provided by the program. One in reading, served all the hospital (400) schools, the Queensboro Shelter and the School for the Deaf (J-47); one learning disabilities specialist served at the School for Language and Hearing Impaired Children (P-158) and four remedial specialists in reading and math were assigned to each of the four Occupational Training Centers (P-721). The positions of the personnel were filled as described in the proposal with one variation. The position of learning disabilities specialist assigned to P-158 was filled by two teachers, each assuming half-time. One teacher had expertise in bilingual methodology and the other in reading in order to meet the needs of this special population.

Activities of the Teacher Specialists

The teacher specialists were to augment the regular

(city tax levy) classroom teachers instruction, and provide selected developed supplementary plans, lessons and instructional materials for the children. They were also to provide in-service workshops and training sessions for the paraprofessionals.

Field Coordinator (Assistant Principal)

The position of a field coordinator (assistant principal) was provided in the program in order to provide more direct supervision and articulation. The duties of the field coordinator included the following:

1. Coordinate and supervise the activities of the program.
2. Arrange and supervise the training of the paraprofessionals and the paraprofessional trainers.
3. To supervise the augmentation of the regular (city tax levy) classroom teachers' instruction, and provide selected developed supplementary plans, lessons and instructional materials for the children.
4. Assume responsibility for planning sessions from which will develop an O.T.C. academic and behavioral objectives curriculum.

Secretary

A secretary was provided to assist the field coordinator.

Supervision and Training

The program was to have the on-site supervision of the city tax levy principals of each school involved, and the full-time field coordinator (assistant principal).

The Program

Scheduled periods of instruction by paraprofessionals

were to vary from ½ hour to 1 hour or more each week dependent upon individual needs. The program was to be conducted during the regular school day, and each child was to receive a minimum of 40 hours of intensive instruction. Each physically handicapped child was to receive a minimum of 20 hours of intensive instruction.

Supplies and Equipment

No equipment was ordered for this program at its initiation. The privilege of ordering these supplies and materials later in the year was reserved in the initial proposal. The sum of $2500 was provided for instructional materials subsequently. Funds were available at mid-year and materials were ordered and distributed.

Chapter II EVALUATION PROCEDURES

Program Objectives

The project objectives as stated in the evaluation design prepared by Wayne E. Williamson were:

1. As a result of participation in the program, "Individualizing Instruction for Physically Handicapped and Mentally Retarded Children in Special Schools," the reading levels of physically handicapped students will show a statistically significant difference between the real post-test and the anticipated post-test score. The population of mentally retarded participants was also included in objective 1.

2. As a result of participation in the program, "Individualizing Instruction for Physically Handicapped and Mentally Retarded Children in Special Schools," the reading levels of mentally retarded and physically handicapped students unable to be tested by written standardized tests will show a statistically significant improvement between the real post-test scores and the anticipated post-test scores.

3. As a result of participation in the program, "Individualizing Instruction for Mentally Retarded Children in Special Schools," the computational skills of mentally retarded children will show a statistically significant improvement between the real post-test scores based on excepted portions of the computational skills section of the M.A.T.

Sampling Procedures

Data on physically handicapped and mentally retarded participants in the program were gathered. A total of 534 children were served; complete data were available for 478 subjects. Table 1 indicates the distribution.

Implementation of Evaluation Procedures

Pre-testing of the participants took place in September, 1974 and early October, 1974 in the Occupational Training Centers, the School for Language and Hearing Impaired Children, the School for the Deaf and the Queensboro Shelter. At these sites children who entered later were tested as soon as they arrived. In the hospital schools which serve a highly transient population, children were tested as soon as they were admitted to the program, and post-testing took place as soon as the teacher became aware that children were to be discharged.

In the hospital schools, the stipulation of a minimal instructional period of 40 hours of instruction was not always attainable for a population which was not always available for instruction (children were sometimes too sick) and children often left the facility before the criterion of 40 hours of instruction could be met. A modification of the proposal therefore included children who had received between 20 and 39 hours of instruction.

Data Collection

Initial achievement scores and background information for each child were completed on data sheets at the beginning of the program in September and the beginning of October, 1974. Final data were gathered on post-test scores during the first week of May, 1975. In the hospital schools, post-test scores were gathered as soon as the teacher knew that the child would leave the hospital.

Instrumentation

A school selected standardized test (such as the Metropolitan Achievement Test) was administered as a pre-test, and a parallel form of the test was given to the same children for post-test comparison. In this program the following tests were used:

Metropolitan Achievement Test - Readiness

Metropolitan Achievement Test - Primer

Metropolitan Achievement Test - Primary I

Metropolitan Achievement Test - Primary II

Metropolitan Achievement Test - Elementary

Metropolitan Achievement Test - Intermediate

Metropolitan Achievement Test - Advanced

Botel Word Recognition

Wide Range Achievement Test

The wide range of ability, achievement, and age levels as well as the diversity of handicaps demonstrated by the population of the program necessitated the implementation of a variety of tests and different levels of the Metropolitan Achievement Test, (see tables 2, 3, and 4).

The Gilmore Oral Reading Test, included in the evaluation design as an instrument to be used for mentally retarded students who were unable to be tested with a written standardized test was not used, because all of the subjects were able to perform on the Metropolitan Achievement Test, the Botel and the WRAT.

Methods of Data Treatment

Evaluation Objective 1 stated that the reading level of physically handicapped students will show a statistically significant difference between the real post-test and the anticipated post-test scores. The population of mentally retarded participants was also included in the evaluation of objective 1.

Subjects were all physically handicapped participants, and mentally retarded participants.

The Method was to administer the appropriate level of the M.A.T. Reading Test on a pre/post-test basis. For the physically handicapped who were untestable with the M.A.T., the alternative standardized measures which were implemented were the Botel Word Recognition Test and the Wide Range Achievement Test.

Data were analyzed with correlated t tests between pre and post-test scores. Each level of the M.A.T. was analyzed separately.

Evaluation Objective 2 stated that the reading level of mentally retarded students will show a positive gain in their reading level between the real post-test scores and the anticipated post-test scores.

Subjects were all mentally retarded participants.

The Method was to administer the Gilmore Oral Reading Test on a pre/post-test basis.

Data were to be analyzed by the "Rhode Island" formula

using correlated t tests.

Since all mentally retarded participants were tested with an appropriate level of the M.A.T. no data were gathered which implemented the Gilmore Oral Reading Test. Evaluation Objective 1 includes all participants of the program.

Evaluation Objective 3 stated that the computational skills of mentally retarded children will show a statistically significant improvement between the pre/post test scores using excerpted portions of the computational skills section of the M.A.T.

Subjects were all mentally retarded participants.

Data were analyzed using correlated t tests between pre and post-test scores. The "Rhode Island" formula was inappropriate for the treatment provided in this program because the treatment time was 40 hours rather than months in school.

Evaluation Objective 4 was for the evaluator/consultant to determine the extent to which the program was actually carried out as it was described in the project proposal.

The Method implemented by the evaluator was to visit each site twice, at the beginning and at the end of the program in order to make on-site observations. Interviews were conducted with the paraprofessionals, the teacher specialists, the supervising personnel (principals) at each school, the field coordinator, the tax levy teachers working with the paraprofessionals at each location, parents and children.

The evaluator attended several staff meetings and workshops.

At the initiation of the program, the evaluator met with principals, teachers, and the field coordinator to describe the evaluation procedures, data collection and to clarify any questions concerning the proposal. Two paraprofessional workshops were attended by the evaluator and sample materials prepared by paraprofessionals and teacher specialists at other workshops were forwarded to the evaluator.

An interim evaluation meeting was held with the field coordinator at mid-year. Recommendations for the balance of the year were made at that time.

An ancillary analysis of the reading performance of the bilingual hearing and speech impaired students who were participating in the bilingual paraprofessional program component was undertaken. In addition, the social and emotional growth of the students was evaluated with a rating scale which was completed at the end of the program by the children's classroom teachers.

Chapter III FINDINGS

Recommendations of the Evaluator 1973-1974

The recommendations of the evaluator were:

1. Recyle and expand the program to service more pupils maintaining existing paraprofessional: pupil ratios.
2. Continue an in-service training program for paraprofessionals.
3. Assign one paraprofessional trainer to each of the OTCs and special schools to be placed under the direct supervision of the institution's administration.
4. Select paraprofessionals capable of providing quality educational instruction.
5. Design curriculum objectives in reading and mathematics appropriate for Occupational Training Center student population.
6. Develop objective measures of behavioral change for mentally retarded pupils in the Occupational Training Centers.
7. Appoint a teacher to coordinate and supervise the activities of the expanded program; assist in the training

of the paraprofessionals; identify physically handicapped and mentally retarded pupils in the regular schools who would qualify for the service of this program; and assume responsibility for recommendations 5 and 6.

All of the recommendations of the previous evaluator have been implemented during the 1974-1975 school year.

Descriptive

The school facilities provided the paraprofessionals were generally satisfactory. The paraprofessionals were welcomed at each of the sites, and every attempt was made to facilitate their instruction. In three of the sites the quarters were barely satisfactory, however, the supervisor at the site was aware of the difficulty and tried to make arrangements which would be more convenient for the paraprofessional.

Pupil Participants

The pupil participants fulfilled the criteria specified in the proposal. They were Title I eligible youngsters who needed individualized assistance in the areas of reading and mathematics. The pupils who were interviewed were enthusiastic about the program. They felt that the program was helping them to learn to read better. Many said that they didn't learn as well in the classroom as they did with the paraprofessional's individualized help.

Paraprofessionals

With the exception of one paraprofessional (he has left the program), all of the educational assistants

employed by the program were capable and interested personnel. They related well to the childrem, were concerned about the reading achievement of their pupils, and fulfilled the specifications described in the proposal, that is: they prepared and disseminated "teacher-made" materials, gave individual and bedside instruction in reading and math and small group instruction in reading and math.

Some of the paraprofessionals were themselves handicapped and served as models for the handicapped children they were working with. In all observed instances, the children were eager and interested.

Teacher Specialists

All the teacher-specialists had earned advanced degrees in special education and/or reading and/or mathematics. The most effective procedure which was implemented was one in which the teacher worked directly with the paraprofessionals in the room in which the children were instructed. In those settings, the paraprofessionals received guidance and the teacher was there to assist with instructional problems immediately.

The persons who filled this position were dedicated, hard-working and highly professional individuals.

Field Coordinator

The position of the field coordinator was provided in the program in order to provide more direct supervision and articulation of the components of the program. She

fulfilled all of the specifications of the position outlined in the proposal efficiently and effectively.

This position was evaluated on the basis of opinions expressed by the personnel in the program and observation of the evaluator. In all instances, positive opinions were expressed by the personnel of the program. The paraprofessionals who had been in the program last year felt that great improvements had been made this year, in the direction they were receiving. Generally positive evaluations were made of the workshops for the paraprofessionals.

The teacher specialists were pleased with the guidance provided by the field coordinator. She was supportive of them, responsive to their needs and directed the program as she involved them in meeting the specifications outlined in the proposal. During some of the on-site visits and workshop meetings, the evaluator was able to observe the interaction between the field coordinator and the other personnel. On these occasions, there appeared to be a highly positive relationship between the staff and the field coordinator. The field coordinator who filled this position was an exceptionally competent individual who combined ability to work with people with professionalism.

The field coordinator made frequent visits to the 19 sites which composed the settings for the program. The evaluator met the field coordinator at the sites and observed her signature in the visitors' book.

The Secretary

The evaluator found that the secretary was an important component of the program. She was a highly efficient, competent individual. The field coordinator found her indispensible.

Children's Evaluation of the Program

Children were highly positive at all the sites toward the program and the paraprofessionals who were tutoring them. In most instances this was the only time they had a teacher to themselves. Many of the children manifested some degree of emotional disturbance (see Table 2) in addition to the specific handicap from which they suffered. The personal relationship helped implement the instructional program.

For some of the children, particularly those in the hospitals, this program represented "normalcy" in the abnormal institutional setting. Children in the hospitals dressed in street clothes to come to school. The program presented an opportunity to keep up with one's studies, anticipate getting back to a normal activity, and helped take one's mind off one's illness.

In the OTCs, the young people felt that the paraprofessionals were their teachers and their friends. Despite the mental retardation, the achievement these young people wanted most to attain was competence in reading.

Parents' Evaluation of the Program

Parents were encountered in the hospitals and interviewed by the evaluator. In all cases, the parents were enthusiastic about the program (especially those with children with illnesses of lengthy duration), and hoped that the program would continue.

Analysis of the Data

Objective 1 stated that the reading level of physically handicapped students would show a statistically significant difference between the real post-test and the anticipated post-test scores. The population of mentally retarded participants was also included in the evaluation of objective 1.

The data were gathered as outlined on p. 15 and were analyzed with correlated t tests between pre and post-test scores. Each level of the M.A.T. was analyzed separately. Data are presented according to school setting because of the extremely diverse range of ability and achievement of the population covered in this program.

Table 6

Analysis of Reading Achievement
Occupational Training Centers (P-721)

Test	N	Degress of Freedom	Pretest Mean	S.D.	Posttest Mean	S.D.	t	P
M.A.T. Readiness								
Listening	3	2	8.67	2.52	8.33	2.08	1.0	N.S.
Match. & Alp.	3	2	11.33	.58	9.00	2.65	1.94	N.S.
M.A.T. Primer								
Listen. Sounds	20	19	18.00	8.24	29.20	6.85	5.03	<.001
Reading	20	19	21.65	8.39	23.80	5.64	1.58	N.S.
M.A.T. Primary I								
Word Knowledge	183	182	25.68	8.41	28.05	7.56	7.61	<.001
Reading	174	173	26.80	11.37	30.47	9.70	7.48	<.001
M.A.T. Primary II								
Word Knowledge	35	34	20.14	8.56	23.86	7.86	3.63	<.001
Reading	35	34	22.90	11.06	26.38	10.06	2.79	<.01
M.A.T. Elementary								
Word Knowledge	5	4	29.80	15.27	29.00	9.30	.23	N.S.
Reading	5	4	13.20	4.66	24.60	6.31	4.67	<.01
Total N	246							

It is obvious from Table 6 that 243 of the 246 participants in the program in the Occupational Training Center indicated statistically significant growth in reading. For the three subjects on the readiness level, it is doubtful whether

any program could demonstrate statistically significant results with retarded children who had not learned after approximately thirteen years of schooling.

Table 7

Analysis of Reading Achievement
School for Language and Hearing Impaired Children (P-158)

Test	N	Degrees of Freedom	Pretest Mean	S.D.	Posttest Mean	S.D.	t	P
M.A.T. Primary I								
Word Knowledge	21	20	17.05	8.95	20.33	8.66	3.89	<.001
Reading	6	5	25.00	7.13	27.83	6.77	2.79	<.05
M.A.T. Primary II								
Word Knowledge	10	9	25.86	7.01	24.29	5.62	.89	N.S.
Reading	10	9	29.29	11.30	28.71	9.55	.18	N.S.
Botel	58	57	6.55	6.48	9.60	7.11	7.62	<.001
Total N	89							

Table 7 indicates that 89% of the participants at the School for Language and Hearing Impaired Children indicated statistically significant growth in reading. Some of the children who were tested with the M.A.T. Primary I were unable to perform on the reading portion of the test and therefore data for 6 rather than 21 subjects is presented.

Table 8

Analysis of Reading Achievement
School for the Deaf (J-47)

Test	N	Degrees of Freedom	Pretest Mean	S.D.	Posttest Mean	S.D.	t	P
M.A.T. Primer								
Listen. Sounds	51	50	7.33	9.86	7.80	11.33	.59	N.S.
Reading	51	50	19.80	10.03	29.04	3.86	6.64	<.001
Total N	51							

Table 8 indicates statistically significant growth in reading

at the School for the Deaf, but no significant growth in the component entitled "Listening for Sounds." This would appear to be an obvious deficiency of the test for children who are hearing impaired, for one would not anticipate growth in auditory perception of sounds from deaf children.

Table 9

Analysis of Reading Achievement
Queensboro Shelter (401 X)

Test	N	Degrees of Freedom	Pretest Mean	S.D.	Posttest Mean	S.D.	t	P
M.A.T. Primary I								
Word Knowlege	6	5	25.00	6.04	30.40	3.36	3.59	<.05
Reading	6	5	25.80	7.76	33.00	5.70	4.13	<.01
M.A.T. Primary II								
Word Knowledge	9	8	28.00	4.56	35.00	2.83	4.36	<.01
Reading	9	8	31.22	7.07	35.67	3.57	2.08	N.S.
M.A.T. Elementary								
Word Knowledge	9	8	33.88	3.14	39.00	2.39	6.15	<.001
Reading	9	8	25.25	3.73	30.88	3.36	5.73	<.001
Total N	24							

Table 9 indicates that all of the subjects at the Queensboro Shelter indicated statistically significant growth in an area of reading. Of this population 66 2/3% indicated statistically significant growth in both word knowledge and reading.

Table 10

Analysis of Reading Achievement
Hospital Schools (401 M, 401X, 401K, 402 M)

Test	N	Degrees of Freedom	Pretest Mean	S.D.	Posttest Mean	S.D.	t	P
M.A.T. Primary I								
Word Knowledge	3	2	30.00	6.08	31.00	6.93	1.73	N.S.
Reading	2	1	35.00	5.66	36.00	4.24	1.00	N.S.
M.A.T. Primary II								
Word Knowledge	2	1	19.50	.71	21.50	2.12	2.00	N.S.
Reading	2	1	21.00	11.31	24.00	12.73	3.00	N.S.
M.A.T. Elementary								
Word Knowledge	8	7	24.50	10.72	28.63	12.27	2.70	$<.05$
Reading	8	7	21.50	6.87	24.25	6.27	1.72	N.S.
M.A.T. Intermediate								
Vocabulary	12	11	24.75	10.63	29.67	11.20	2.30	$<.05$
Comprehension	11	10	22.64	8.57	23.36	9.57	2.89	$<.05$
M.A.T. Advanced								
Vocabulary	2	1	25.00	0	25.00	0	0	N.S.
Comprehension	1	0	17.00	0	44.00	0	0	N.S.
Wide Range Achievement Test								
Reading	41	40	39.34	16.30	42.98	15.89	3.59	<001
Total N	68							

In the hospital schools which served sick children, criterion instructional time in the program was modified from 40 hours to include children who participated from 20 to 39 hours. For the 68 subjects whose complete data were analyzed, 26 subjects (approximately 38%) were present for 40 hours of instruction, while 42 subjects (approximately 61%) were present for 20 to 39 hours of instruction. The tests which were used to evaluate achievement are normed on a population of healthy children in a normal school setting, rather than sick children in hospitals, the population of this study. In addition, the small sample size used for some of the tests made it difficult to demonstrate statistical significance.

The correlated *t* was the statistic used in the analysis (the analysis of covariance with time in the program as the covariate did not prove to be a more powerful test). It is evident from

the data that the projected improvement in reading for children in the hospital schools was realized for approximately 89% of the population indicating significant improvement in reading.

Objective 2 stated that the reading levels of mentally retarded and physically handicapped students unable to be tested by written standardized tests would show a statistically significant improvement between the real post-test scores and the anticipated post-test scores. The Gilmore Oral Reading Test was the instrument to be used. Since all participants were tested on an appropriate level of the M.A.T., Botel or WRAT test, no data were gathered which implemented the Gilmore Oral Reading Test. Evaluation Objective 1 includes all participants of the program.

Objective 3 stated that the computational skills of mentally retarded children will show a statistically significant improvement between the pre/post test scores using excepted portions of the computational skills section of the M.A.T.

The data were gathered as outlined on p. 16 and were analyzed with correlated t tests between pre and post-test scores. Each level of the M.A.T. was analyzed separately. Data are presented for the 238 subjects who participated in arithmetic instruction. Table 11 presents the data.

Table 11

Analysis of Arithmetic Achievement
Occupational Training Centers (P-721)

Test	N	Degrees of Freedom	Pretest Mean	S.D.	Posttest Mean	S.D.	t	P
M.A.T. Readiness								
Numbers	3	2	12.67	3.79	11.67	3.22	.50	N.S.
Copying	2	1	6.00	1.41	7.50	2.12	3.00	N.S.
M.A.T. Primer								
Numbers	20	19	19.35	8.24	28.25	4.66	5.84	<.001
M.A.T. Primary I								
Computation	181	180	37.46	14.68	42.56	14.38	13.87	<.001
Concepts	54	53	20.04	4.87	21.09	5.33	2.28	<.05
M.A.T. Primary II								
Computation	29	28	24.03	17.43	31.14	15.61	4.82	<.001
Concepts	28	20	17.57	4.46	25.10	5.24	8.09	<.001
M.A.T. Elementary								
Computation	5	5	21.40	8.59	22.80	9.88	1.72	N.S.
Concepts	5	4	9.00	1.41	9.50	2.12	1.00	N.S.
Total N	238							

Table 11 indicates that the projected improvement in computation of the participants was realized. Of the population of 238, 230 participants (96%) indicated statistically significant improvement in computation.

Ancillary Analyses

Language Program for Bilingual Hearing and Speech Impaired Children

At the School for Language and Hearing Impaired Children, an innovative program utilizing bilingual paraprofessionals, strove to develop the receptive and expressive language of bilingual language and hearing impaired children based upon the rationale that language proficiency is basic to reading achievement. Children who participated demonstrated language confusion, that is, they often "mixed up" the two languages (English and Spanish).

The effectiveness of this procedure was evaluated by comparing the achievement of the bilingual children in the special program with the achievement of bilingual children in the same setting who had not participated in the intensive language program on the achievement in reading as measured by the Botel Reading Test. Table 12 presents the data.

Table 12

Reading Achievement
of
Bilingual Language and Hearing Impaired

Variable	Intensive Language Mean	S.D.	Others Mean	S.D.	Degrees of Freedom	t	P
Botel - pretest	5.75	4.28	7.30	8.02	56	.93	N.S.
Botel - posttest gain scores	4.54	3.13	1.67	2.25	56	3.98	<.001

It is apparent from an analysis of the data that the children who participated in the intensive language program indicated significantly greater gains in achievement in reading.

The social-emotional growth of the children in the intensive language and other participants in the bilingual language and hearing impaired program were compared on the following dimensions: relations to peers, relations to school personnel, toleration of frustration and anxiety, ability to function without supervision, and change in self-image. The children in the intensive language program demonstrated significantly greater growth (less than .001) on <u>every dimension</u> than the participants in the regular program.

Table 13

Social-Emotional Growth
All Pupil Participants

Dimension	Adjusted Frequency Percent 1	2	3	4	5	Total	Mean	S.D.
N = 410*								
Relations to Peers	0	1.3	47.6	33.5	17.5	100%	3.67	.774
Relations to School Personnel	0	1.8	41.2	38.1	18.9	100%	3.74	.78
Toleration of Frustration and Anxiety	.2	2.9	48.8	33.7	14.4	100%	3.59	.776
Ability to Function Without Direct Supervision	.2	1.6	46.8	34.7	16.7	100%	3.66	.777
Change in Self-Image	0	.7	35.1	42.6	21.6	100%	3.85	.757

Code:
1 = much worse
2 = somewhat worse
3 = about the same
4 = somewhat improved
5 = much better
*Not appropiate for hospital schools

Classroom teachers were asked to rate the participants in the program at the end of the program, on the scale indicated above. The data reported in Table 12 supports the evaluator's observations during on-site visits, for 89.3% of the participants improved in their ability to function within the school setting on a social-emotional level.

Inservice Training

The recommendations of the 1973-1974 evaluation indicated that the inservice training was to be continued. The evaluator attended two workshops, interviewed the paraprofessionals and

the teacher-trainers and examined the field coordinator's records of workshops held. Table 14 presents the data.

Table 14

Inservice Training

Paraprofessional Workshops

Date	Participants	Topic
9/27/74	All	Understanding and Working With the Handicapped Child
10/28/74	All	Helping Children Learn to Read
11/19/74	OTC only	Understanding and Changing Attitudes Toward the Mentally Retarded and Teaching Math to the Mentally Retarded in the OTC
11/26/74	Hosp. Schls SLHIC J 47	The Use of Puppets in Language Arts Instruction
1/31/75	All	Two Approaches to Reading Use of Audio-Visual Equipment in Individualizir Instruction
2/28/75	All	Individualizing Math Instruction
4/25/75	All	The Program in Retrospect

Paraprofessional Trainer Planning Meetings

10/18/75, 10/22/74, 11/8/74, 12/13/74, 1/24/75, 2/14/75, 3/21/75, 4/17/75, 5/9/75 (Training Meeting), 6/9/75

The paraprofessionals found the workshops helpful and the interaction among themselves, they indicated, added to their own professional growth. The field coordinator arranged a workshop in which paraprofessionals presented their approaches (this workshop developed out of opinions expressed to the evaluator during the initial site visits) to instruction for each other. The number of workshops and the quality of workshops was a decided improvement over the previous year, according to the paraprofessionals. It is evident from Table 14 that some workshops presented topics of common interest and that provision was made for presentation of approaches to instruction for particular handicaps.

The planning meetings of the paraprofessional trainers involved implementation of the program as well as the development of behavioral objectives for instruction in the Occupational Training Centers. The procedures in the development of the behavioral objectives were as follows:

1. A document specifying behavioral objectives was developed in work sessions with paraprofessional trainers.

2. The draft of the behavior objectives was submitted to principals at the Occupational Training Centers for their review and recommendations.

3. A meeting was held with the principals to finalize the document.

It is evident from an analysis of the data, on-site observations and reports of the personnel involved in the program that the program fulfilled the objectives as stated in the proposal.

Chapter IV SUMMARY OF MAJOR FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The program entitled, "Individualizing Instruction for Physically Handicapped and Mentally Retarded Children in Special Schools," B/E 09-51696 (ESEA Title I) was conducted from September, 1974 until June, 1975 at 19 facilities which were located in every borough of New York City. The program provided the following personnel: 44 paraprofessionals, 6 teacher specialists, 1 field coordinator and 1 secretary. There were 534 participants in the program. Complete data were gathered for 478 participants.

The program objectives were:

Objective 1 was to significantly raise the reading levels of physically handicapped students. The population of mentally retarded students was also included in objective 1.

Objective 2 was to significantly raise the reading levels of physically handicapped and mentally retarded students unable to be tested with written standardized tests. Since all the participants were tested with written standardized tests, data were not gathered for objective 2.

Objective 3 was to significantly raise the computational levels of mentally retarded children.

Objective 4 was for the evaluator/consultant to determine the extent to which the program was actually carried out as it was described in the project proposal.

The findings and conclusions were:

Objective 1: The projected improvement in reading set forth in objective 1 was realized, for more than 85% of the physically

handicapped and mentally retarded participants did demonstrate statistically significant gains in reading achievement. This objective was attained during the short instructional period of approximately 40 hours indicating that the intensive instruction provided by the program was effective.

Objective 2: Data were not gathered as indicated on p. 32.

Objective 3: The projected improvement in computation of mentally retarded participants set forth in objective 3 was realized for 96% of the students indicated statistically significant gains.

Objective 4: The evaluator/consultant, on the basis of on-site visits, interviews with program personnel, site city tax levy personnel, children and parents as well as examination of records and data, concluded that the program was implemented as it was described in the proposal. Outstanding aspects of the program were the intensive language program for bilingual language and hearing impaired children, the employment of handicapped paraprofessionals who worked effectively with handicapped children, and the training program which was implemented.

Recommendations

1. This program should be recycled because it provides necessary supportive services for special children which would otherwise be unavailable.

2. The paraprofessional trainer role should be continued with active involvement of the paraprofessional trainer in teaching, on-site teaching demonstrations, diagnosis of reading problems and instructional prescriptions.

A full-time paraprofessional trainer should be provided to each of the O.T.C.s and special schools.

3. Diagnostic and prescriptive programming for program participants should be improved to include the following:

a. An individual profile for each of the participants should be developed and records should be kept indicating information such as: family history, health history, school attendance, intellectual level (retarded population), achievement data, participation in special programs used for instruction and any other relevant data which would assist in planning optimal instruction.

b. In order to provide effective diagnosis and ongoing prescription, it is strongly recommended that paraprofessional trainers schedule case conferences with supportive school personnel (psychologist, guidance counselor, social worker, attendance teacher, etc.) with a minimum of three conferences during the academic year (Sept.-Oct., Jan.-Feb., May-June).

The implementation of the diagnostic and prescriptive programming for program participants at each site is to be supervised by the paraprofessional trainer assigned to that site. The field coordinator should direct and supervise the paraprofessional trainers in the fulfillment of this recommendation.

4. The curriculum objectives developed during the 1974-1975 school year for mentally retarded children should be implemented in the program for 1975-1976. There should be ongoing evaluation of the effectiveness of the objectives in guiding instruction during the 1975-1976 school year.

5. Schools for handicapped children in which paraprofessionals are placed should provide the field coordinator, paraprofessional trainers, and paraprofessionals in that setting with specific curriculum objectives in reading and/or math for the handicapped population. This will enable the field coordinator to provide appropriate supervision and supplementary training for the paraprofessionals.

6. Work should be continued on criterion referenced instruments appropriate for administration to the physically handicapped and/or mentally retarded child in order to evaluate achievement.

7. The role of the field coordinator should be continued and expanded. In order to provide competent personnel for this special population, personnel hired for the program should be approved by the field coordinator responsible for supervision of the program.

8. Training workshops should be expanded to include funds for outside consultants with expertise within the various handicap areas such as learning disabilities, reading specialists and mathematics specialists.

Component Code	Activity Code	Objective Code
60861	720	801
60961	720	801

Chapter V EXEMPLARY PROGRAM ABSTRACT Function No. 09-51696

Physically handicapped and mentally retarded children were provided with an intensive remedial program in reading and mathematics designed to significantly improve their achievement. The program was conducted from September, 1974 to June, 1975 in 19 facilities. Personnel provided to implement the program were 44 paraprofessionals, 6 teacher specialists, 1 field coordinator and 1 secretary.

The program consisted of scheduled periods of instruction by paraprofessionals of ½ hour to 1 hour or more each week, with a total minimum of 40 hours for each participant except in the hospital schools where the minimum was 20 hours of total instruction. Other components of the program were the training workshops held for paraprofessionals, the planning sessions for teacher specialists who developed behavioral objectives and the innovative intensive language program for bilingual language and hearing impaired children.

All of the objectives were fully met. Highly significant gains were demonstrated by the children from pre-testing to post-testing in the achievement in reading and/or mathematics. Ancillary analyses indicated significant achievement in reading for children participating in the intensive language program for bilingual language and hearing impaired children. All participants demonstrated growth in social-emotional development.

The evaluator recommended that the program be recycled for it provides supportive services for special children which would otherwise be unmet.

B/E 09-51696

Individualizing Instruction for Physically Handicapped and Mentally Retarded Children in Special Schools

Use Table 30C. for norm referenced achievement data not applicable to tables 30A. and 30B.

30C. Standardized Test Results

In the table below, enter the requested information about the tests used to evaluate the effectiveness of major project components/activities in achieving desired objectives. Before completing this form, read all footnotes. Attach additional sheets if necessary.

51

Component Code O.T.C.	Activity Code	Test Used 1/	Form Pre	Form Post	Level Pre	Level Post	Total N 2/	Group ID 3/	Number Tested N 4/	Number Tested Score Type 5/	Pretest Date	Pretest Mean	Pretest SD 6/	Posttest Date	Posttest Mean	Posttest SD 6/	Statistical Data Test 7/	Statistical Data Value 8/	Statistical Data Level 9/
6 0 8 6 1	7 2 0	MAT-71 Read.	*	*	Readiness		3	Retarded	3	6	10/74	8.67 11.33	2.52 .58	4/75	8.33 9.00	2.08 2.65	Correlated t	1.0 1.94	N.S N.S.
6 0 8 6 1	7 2 0	MAT-71 Primer	*	*	Primer		20	"	20	6	10/74	18.00 24.65	8.24 8.33	4/75	29.2 23.8	6.85 5.64	"	5.03 1.58	<.001 N.S.
6 0 8 6 1	7 2 0	MAT-71	*	*	Primary I		183 174	"	183 174	6	10/74	25.08 26.80	8.41 11.37	4/75	28.05 30.49	7.56 9.70	"	7.61 7.48	<.001 <.001
6 0 8 6 1	7 2 0	MAT-71	*	*	Primary II		35	"	35	6	10/74	20.14 22.90	8.56 11.06	4/75	23.86 26.38	7.86 10.06	" "	3.63 2.79	<.001 <.01
6 0 8 6 1	7 2 0	MAT-71	*	*	Elem.		5	"	5	6	10/74	29.8 13.2	15.27 4.66	4/75	29.0 24.6	4.3 6.31	"	.23 4.67	N.S <.01
6 0 8 6 1	7 2 0	MAT-71	*	*	Primary I		21 6	Lang.& Hear.Imp.	21 6	6	10/74	17.05 25.0	8.95 7.13	4/75	26.33 27.83	8.66 6.77	"	3.89 2.77	<.001 <.05
6 0 8 6 1	7 2 0	MAT-71	*	*	Primary II		10	"	10	6	10/74	25.86 29.27	7.01 11.3	4/75	24.29 28.71	5.62 9.55	"	.89 .18	N.S N.S
6 0 8 6 1	7 2 0	Botel	*	*			58	"	58	6	10/74	6.55	6.48	4/75	9.6	7.11	"	7.62	<.001

1/ Identify Test Used and Year of Publication (MAT-58; CAT-70, etc.)
2/ Total number of participants in the activity
3/ Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.
4/ Total number of participants included in the pre and post test calculations.
5/ 1 = grade equivalent; 2 = percentile rank; 3 = Z Score; 4 = Standard score (publisher's); 5 = stanine; 6 = raw score; 7 = other.
6/ S.D. = Standard Deviation

7/ Test statistic (e.g., t; F; X^2).
8/ Obtained value
9/ Specify level of statistical significance obtained (e.g., $p \leq .05$; $p \leq .01$).

* Form varied with center.

Individualizing Instruction for Physically Handicapped and Mentally Retarded Children in Special Schools

B/E 09-51696

Use Table 30C. for norm referenced achievement data not applicable to tables 30A. and 30B.

30C. Standardized Test Results

In the table below, enter the requested information about the tests used to evaluate the effectiveness of major project components/activities in achieving desired objectives. Before completing this form, read all footnotes. Attach additional sheets if necessary.

51

Component Code	Activity Code	Test Used[1]	Form Pre	Form Post	Level Pre	Level Post	Total N[2]	Group ID[3]	Number Tested N[4]	Number Tested Score Type[5]	Pretest Date	Pretest Mean	Pretest SD[6]	Posttest Date	Posttest Mean	Posttest SD[6]	Statistical Data Test[7]	Statistical Data Value[8]	Statistical Data Level[9]
6 0 8 6 1	7 2 0	MAT-71	F	H	Primer		51	Deaf	51	6	10/74	7.33 19.8	7.86 10.03	4/75	7.8 29.04	11.33 3.86	Correlated t	.54 6.64	N.S. <.001
6 0 8 6 1	7 2 0	MAT-71	F	H	Primary I		6	Neglected	6	6	10/74	25.0 25.8	6.04 7.76	4/75	30.4 33.2	3.36 5.70	"	3.59 4.13	<.05 <.01
6 0 8 6 1	7 2 0	MAT-71	F	H	Primary II		9	"	9	6	10/74	28.0 31.22	4.56 7.07	4/75	35.0 35.67	2.83 3.57	"	4.36 2.08	<.01 N.S.
6 0 8 6 1	7 2 0	MAT-71	F	H	Elem.		9	"	9	6	10/74	33.88 35.35	3.14 3.73	4/75	37.0 38.88	2.37 3.36	"	6.15 5.73	<.001 <.001
6 0 8 6 1	7 2 0	MAT-71	*		Primary I		3 2	Hosp.	3 2	6	**	30.0 35.0	6.08 5.66	**	31.0 36.0	6.93 4.24	"	1.73 1.00	N.S. N.S.
6 0 8 6 1	7 2 0	MAT-71	*		Primary II		2	"	2	6	**	19.5 21.0	.71 11.31	**	21.5 24.0	2.12 12.73	"	2.00 3.00	N.S. N.S
6 0 8 6 1	7 2 0	MAT-71	*		Elem.		8	"	8	6	**	24.5 21.5	10.72 6.87	**	26.63 24.25	12.27 6.27	"	2.70 1.72	<.05 N.S.
6 0 8 6 1	7 2 0	MAT-71	*		Inter.		12 11	"	12 11	6	**	24.75 22.64	10.63 8.57	**	29.67 23.36	11.2 9.57	"	2.30 2.89	<.05 <.05

1/ Identify Test Used and Year of Publication (MAT-58; CAT-70, etc.)
2/ Total number of participants in the activity
3/ Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.
4/ Total number of participants included in the pre and post test calculations.
5/ 1 = grade equivalent; 2 = percentile rank; 3 = Z Score; 4 = Standard score (publisher's); 5 = stanine; 6 = raw score; 7 = other.
6/ S.D. = Standard Deviation
7/ Test statistic (e.g., t; F; X^2).
8/ Obtained value
9/ Specify level of statistical significance obtained (e.g., $p \leq .05$; $p \leq .01$).

* Varied forms.
** Dates varied. Transient population.

Individualizing Instruction for Physically Handicapped and Mentally Retarded Children in Special Schools

B/E 09-51696

Use Table 30C. for norm referenced achievement data not applicable to tables 30A. and 30B.

30C. Standardized Test Results

In the table below, enter the requested information about the tests used to evaluate the effectiveness of major project components/activities in achieving desired objectives. Before completing this form, read all footnotes. Attach additional sheets if necessary.

51

Component Code	Activity Code	Test Used[1]	Form Pre	Form Post	Level Pre	Level Post	Total N[2]	Group ID[3]	Number Tested N[4]	Number Tested Score Type[5]	Pretest Date	Pretest Mean	Pretest SD[6]	Posttest Date	Posttest Mean	Posttest SD[6]	Statistical Data Test[7]	Statistical Data Value[8]	Statistical Data Level[9]
6 0 8 6 1	7 2 0	MAT-71	*		Adv.		2 1	Hosp.	2 1	6	**	25.00 17.00	0 0	**	25.50 44.00	0 0	correlated t	0 0	N.S N.S.
6 0 8 6 1	7 2 0	WRAT	Form				41	"	41	6	**	39.34	16.3	**	42.98	15.89	"	3.59	<.001
6 0 9 6 1	7 2 0	MAT-71	*		Readi.		3 2	Retard.	3 2	6	**	12.67 6.00	3.79 1.41	**	11.67 7.50	3.22 2.12	"	.50 3.00	N.S. N.S.
6 0 9 6 1	7 2 0	MAT-71	*		Primer		20	"	20	6	10/74	19.35	8.24	4/75	28.25	4.66	"	5.84	<.001
6 0 9 6 1	7 2 0	MAT-71	*		Primary I		181 54	"	181 54	6	10/74	37.46 20.04	14.18 4.87	4/75	42.56 21.09	14.38 5.33	"	13.87 2.28	<.001 <.05
6 0 9 6 1	7 2 0	MAT-71	*		Primary II		29 28	"	29 28	6	10/74	24.03 17.57	12.43 4.46	4/75	31.14 25.10	15.61 5.24	"	4.82 8.09	<.001 <.001
6 0 9 6 1	7 2 0	MAT-71	*		Elem.		5	"	5	6	10/74	21.4 9.0	8.59 4.41	4/75	22.8 9.5	9.88 2.12	"	1.72 1.00	N.S N.S.

1/ Identify Test Used and Year of Publication (MAT-58; CAT-70, etc.)
2/ Total number of participants in the activity
3/ Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.
4/ Total number of participants included in the pre and post test calculations.
5/ 1 = grade equivalent; 2 = percentile rank; 3 = Z Score; 4 = Standard score (publisher's); 5 = stanine; 6 = raw score; 7 = other.
6/ S.D. = Standard Deviation
7/ Test statistic (e.g., t; F; X^2).
8/ Obtained value
9/ Specify level of statistical significance obtained (e.g., $p \leq .05$; $p \leq .01$).

* Form varied with center.

Individualizing Instruction for Physically Handicapped and Mentally Retarded Children in Special Schools

B/E 09-51696
Ancillary Data
Bilingual Language
and Hearing Impaired

Use Table 30B for Treatment/Control Designs

30B. Standardized Test Results

In the table below, enter the requested information about the tests used to evaluate the effectiveness of major project component/activities in achieving desired objectives. If there was random assignment and only one testing period, report the mean scores (preferably in grade equivalents in the column "posttest." Before completing this table, read all footnotes. Attach additional sheets if necessary.

50

Component Code	Activity Code	Test Used 1/	Form		Level		Total N 2/	3/	Group 4/ I.D.	Number Tested		Pretest			Posttest Gain scores			Statistical Data			
			Pre	Post	Pre	Post				N	Score Type 5/	Date	Mean 6/	S.D. 7/	Date	Mean 6/	S.D. 7/	df 8/	Test 9/	Value 10/	Level 11/
6 0 8 6 1	7 2 0	Total					58	T	61	58	6	10/74	5.75	4.28	4/75	4.54	3.13	56	Correlated t	3.98	.001
								C	61	58	6	10/74	7.30	8.02	4/75	1.67	2.25				
								T													
								C													
								T													
								C													
								T													
								C													
								T													
								C													

1/Identify the test used and year of publication (MAT-58;CAT-70,etc).
2/Total number of participants in the activity.
3/T=Treatment group; C=Control group. (a control group consists of students selected at the same time that the treatment participants were selected and who essentially have the same characteristics as the treatment group. The control group does not take part in the compensatory activity, whereas the treatment group does.)
4/Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.
5/1=grade equivalent; 2=percentile rank; 3=Z score; 4=publisher's standard score; 5=stanine; 6=raw score; 7=other.
6/Report mean grade equivalents unless unavailable from publisher's norms.
7/Standard deviation
8/Degrees of freedom (Within/Between)
9/Test statistic (e.g. t; F; X^2 etc.)
10/Obtained value
11/Specify level of statistical significance obtained (e.g. $p \leq .05$; $p \leq .01$)

~~Individualizing~~ Instruction for Physically Handicapped and Mentally Retarded Children in Special Schools

OFFICE OF EDUCATIONAL EVALUATION - DATA LOSS FORM

(attach to MIR, item #30) Function # B/E 09-51696

In this table enter all Data Loss information. Between MIR, item #30 and this form, all participants in each activity must be accounted for. The component and activity codes used in completion of item #30 should be used here so that the two tables match. See definitions below table for further instructions.

Component Code	Activity Code	(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed N	(5) %	(6) Reasons why students were not tested, or if tested, were not analyzed	Number/ Reason
6 0 8 6 1	7 2 0	61	MAT-71	254	.246	8	3%	Absent	5
								Discharged	2
								Working	1
6 0 8 6 1	7 2 0	61	Botel	95	89	6	6%	Dropped	4
								Moved	1
								Absent	1
6 0 8 6 1	7 2 0	61	MAT-71 Botel MRAT	110	68	42	38%	Left hospital before post-testing	42

(1) Identify the participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combined, enter the last two digits of the component code.

(2) Identify the test used and year of publication (MAT-70, SDAT-74, etc.).

(3) Number of participants in the activity.

(4) Number of participants included in the pre and posttest calculations found on item #30.

(5) Number and percent of participants not tested and/or not analyzed on item #30.

(6) Specify all reasons why students were not tested and/or analyzed. For each reason specified, provide a separate number count. If any further documentation is available, please attach to this form. If further space is needed to specify and explain data loss, attach additional pages to this form.